

**ABSTRACT**

Systems and methods to remove or lessen the size of metal particles that have formed on, and to limit the rate at which metal particles form or grow on, workpiece surface influencing devices used during electrodeposition are presented. According to an exemplary method, the workpiece surface influencing device is occasionally placed in contact with a conditioning substrate coated with an inert material, and the bias applied to the electrodeposition system is reversed. According to another exemplary method, the workpiece surface influencing device is conditioned using mechanical contact members, such as brushes, and conditioning of the workpiece surface influencing device occurs, for example, through physical brushing of the workpiece surface influencing device with the brushes. According to a further exemplary method, the workpiece surface influencing device is rotated in different direction during electrodeposition.